

REMARKS

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, has tentatively rejected all claims 1-9. In response, Applicant has amended independent claim 1, canceled claims 5 and 6, and added new claim 10. For at least the reasons set forth herein, Applicant respectfully request reconsideration and withdrawal of the rejections.

The Official Action rejected Claims 1, 4, 5, 6, 8, and 9 under 35 U.S.C 103(a) as allegedly unpatentable over Ishii et al. (US 5,136,395) in view of Klaassen et al (US 6,622,252). Claims 1-3, and 8-9 stand rejected under 35 U.S.C 103(a) as allegedly unpatentable over DeCarmo et al. (US 6,381,404) in view of Sasaki et al (US 6,836,454). Of the rejected claims, only claim 1 is independent. Therefore, the following remarks will focus on claim 1.

As amended herein, independent claim 1 recites:

1. A method for playing back optical videodisc by using an optical disc drive, the method comprising the following steps:
 - a. reading video data from an optical videodisc at highest possible speed of the optical disc drive;
 - b. storing the video data to a non-volatile storage device;**
 - c. halting the operation of the optical disc after the reading process has completed in order to avoid the unnecessary free running during idling time for power saving purpose;
 - d. according to a video playing speed, a video play back device continuously acquiring and playing back the video data from the non-volatile storage device;
 - e. outputting the video data to a video display unit.

(Emphasis added.) Claim 1 patently defines over the cited art for at least the reason that the cited art fails to disclose the features emphasized above.

The Office Action cites “figure 2, video memory 207, column 4, lines 64- column 5, line 51” of Ishii as allegedly disclosing the claimed feature emphasized above. Applicant respectfully requests reconsideration of this rejection. In this regard, the cited portion of Ishii states:

The ID number of a first still image is set in the input unit 204 in a step S1. When the ID number is sent to the address generator 203, the corresponding physical address is calculated. The physical address is sent through the control unit 201 to the optical disk drive unit 202, which repeatedly reads the data on the first still image from the optical disk 100. ***The data are temporarily stored in the video memory 207. The data are then read from the video memory 207 and converted into a still image signal that is applied to the television picture monitor 300,*** which displays the first image (step S2). If the user who is attempting to retrieve a desired still image does not give an instruction to stop the retrieval process (step S3; N), then the ID number of a next still image (i.e., a second still image) is set in the input unit 204 in a step S6. The still image corresponding to the ID number is displayed on the television picture monitor 300 according to the same process as described above. The above process is repeated and successive still images are displayed and browsed until the user instructs the apparatus to stop the retrieval process. When the user finds a desired still image and a retrieval stop instruction is entered (step S3; Y), the ID number of the still image which is predetermined as the fourth previous image with respect to the presently displayed still image is set in the input unit 204 in a step S4. In order to thus set the ID number, the movable contact 1a of the switch 1 of the reproduction control circuit 10 is connected beforehand to the fifth fixed contact 1f (not shown). More specifically, in response to the instruction to stop the retrieval process, the input unit 204 searches the reproduction control circuit 10, and recognizes that the first through fourth latches 2a through 2d are connected and the fourth previous image is to be reproduced. That is, when a retrieval is carried out, the ID number corresponding to a still image being displayed on the TV monitor is given to the first latch 2a and the ID number given to the first latch 2a is shifted to the second latch 2b when the next ID number corresponding to the image next to the former displayed image is given. Thus, ID numbers are shifted from a latch to the next latch. If the ID number of a desired still image is 5 and if a retrieval stop instruction is

entered when a still image having an ID number 7 is being displayed, the first, second, third, fourth, fifth, --latches have 6, 5, 4, 3, 2,-- as ID numbers, respectively. Accordingly, the ID number 3 is inputted into the input unit 204 through the fixed contact 1f connected to the output terminal of fourth latch 2d. The input unit 204 sends the ID number of the fourth previous image to the address generator 203, which calculates the corresponding physical address. The fourth previous image is then displayed on the television picture monitor 300 (step S5) and successive still images are continuously displayed. Instead of the reproduction control circuit 10, a simple memory may be used.

(Emphasis added).

Claim 1 has been amended, however, to specifying storing the video data to a “non-volatile” storage device. Page 2, line 5-10 of the present application describes that **data on the disc is cached to a storage device and then the data is displayed on a display device directly from the storage device**. As a result, advance of power saving is achieved.

With regard to Ishii, which is directed to a still image reproducing system, a still image data is recorded in the video memory and then the data is displayed on the screen or transferred to the optical disk [column 3, lines 37-59]. Significantly, Ishii fails to teach that a video data on the disc is cached to a storage device.

Accordingly, Ishii fails to disclose this expressly claimed feature. Therefore, the combination of Ishii and Klaassen (even if properly combined) fails to disclose the claimed feature.

The Office Action also rejected claim 1 as allegedly obvious over the combination of deCarmo (US 6,381,404) in view of Sasaki (US 6,838,454). Applicant respectfully requests reconsideration of this rejection.

Again, claim 1 has been amended herein to recite:

1. A method for playing back optical videodisc by using an optical disc drive, the method comprising the following steps:
 - a. reading video data from an optical videodisc at highest possible speed of the optical disc drive;
 - b. storing the video data to a non-volatile storage device;**
 - c. halting the operation of the optical disc after the reading process has completed in order to avoid the unnecessary free running during idling time for power saving purpose;
 - d. according to a video playing speed, a video play back device continuously acquiring and playing back the video data from the non-volatile storage device;
 - e. outputting the video data to a video display unit.

(Emphasis added.) Claim 1 patently defines over the cited art for at least the reason that the cited art fails to disclose the features emphasized above.

The Office Action cites “column 5, lines 48-column 6, line 5” of deCarmo as allegedly teaching the emphasized element. In fact, this portion of deCarmo teaches:

The DVD player loads data fetched during a read-ahead operation into a cache 150 of memory 120 prior to its processing and/or decoding. Memory caching is well known in the computer arts as well as in the DVD Specification. The fetched data can be stored in the cache 150 until it is needed. Read-ahead operations are useful in that they are designed to maintain sufficient data in the cache to enable playback to continue uninterrupted even while the microprocessor is servicing interrupts. Unfortunately, conventional read-ahead operations can be limited or prevented altogether due copy-protection techniques. As described above, such techniques can prevent conventional read-ahead techniques from reading data blocks that cross title boundaries into titles that the DVD player is not

authorized to play. Further information regarding caches for DVD players and problems associated with copy protected content can be had with reference to a co-pending, commonly-assigned U.S. Pat. application, Ser. No. 09/122,967, entitled "A Host-Based Caching Method and System for Copy Protected Content," filed by Linden A. DeCarmo. (The disclosure of that application is incorporated herein by reference.) The invention pertains to a novel technique for performing read-ahead operations and storing data in the cache of the DVD player, particularly where, e.g., title keys possessed by the player will not permit read-ahead operations to cross title boundaries.

(Emphasis added). As reflected in the foregoing, deCarmo fails to disclose the claimed feature of storing a large amount of video data to a non-volatile storage device.

In this regard, deCarmo teaches that the **DVD player loads data fetched into a cache** [see column 5, lines 48-56]. However, the cache used in deCarmo is a volatile module and the capacity of the cache is too small to store all data on the DVD disc [see Fig. 2]. In other words, claim 1 of the present application was unforeseeable at the time of application by deCarmo, and thus, deCarmo fails to teach that data can be cached to a non-volatile storage device from the disc, the operation of the optical disc is stopped after the reading process has completed, and then the video data is displayed from the storage device. For at least this reason, the rejection should be withdrawn.

Moreover, the citations cited by Examiner disclose that the storage device is volatile storage module. Thus, the data CANNOT be stored in the storage device when the power is shut down. Whereas according to the specification of

the present application (see page 5, line 23 to page 6, line 4), the data is stored in the storage device and displayed straight from the storage device. This feature is embodied in newly added claim 10, which recites:

10. A method for playing back optical videodisc by using an optical disc drive, the method comprising the following steps:
- a. reading video data from an optical videodisc at highest possible speed of the optical disc drive;
 - b. storing the entire video data to a non-volatile storage device;**
 - c. halting the operation of the optical disc after the reading process has completed in order to avoid the unnecessary free running during idling time for power saving purpose;
 - d. according to a video playing speed, a video play back device continuously acquiring and playing back the video data from the non-volatile storage device;
 - e. outputting the video data to a video display unit;
 - f. ending the output of the video data;
 - g. outputting the video data directly from the non-volatile storage device.**

(Emphasis added). Claim 10 patently defines over the cited art for at least the reason that the cited art fails to disclose the features recited above.

For at least the foregoing reasons, independent claims 1 and 10 define over the cited art. As an independent basis for the patentability of independent claim 1, Applicant submits that the combination of Klaassen and Ishii is improper. Likewise, Applicant submits that the combination of Sasaki and deCarmo is improper. In combining Klaassen with Ishii, the Office Action stated that the combination “would have been motivated to halt the hard disk to reduce the power consumption for the portable computing devices.” However, the claimed

embodiments are not limited to portable computing devices. Therefore, in the context of the claimed embodiments, the alleged motivation is improper.

Likewise, in combining Sasaki with deCarmo, the Office Action stated that the combination would be motivated “to read-ahead using the maximum speed to read necessary information as quickly as possible from the hard disk and to stop the disk after the reading is done to lower the power consumption and noise for the DVD drive.” Again, this alleged motivation does not have a direct nexus with the claimed embodiments, which is a strong indication that the motivation is a result of improper hindsight. For at least these additional reasons, the rejection of claim 1 should be withdrawn.

As claims 2-4 and 7-9 depend from claim 1, these claims define over the cited art for at least the same reasons as claim 1.

In view of the foregoing amendments and remarks, all claims of the present application are in condition for allowance and such action is respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance.

Should the Examiner have any questions regarding this response, the Examiner is invited to telephone the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

/Daniel R. McClure/

Daniel R. McClure
Registration No. 38,962

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.

Suite 1750
100 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500